

THE INVENTION CLAIMED IS

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1. A decision tree system for use in data mining utilizing a storage module and an object oriented linking module for linking said decision tree system and said storage module; comprising:
- an object oriented pattern recognition algorithms module for pattern recognition, comprising:
    - a decision tree system including
    - an object oriented module to read said data,
    - an object oriented module to sort said data if sorting is necessary,
    - an object oriented module to determine the best manner to split said data according to some criterion, and
    - an object oriented module to split said data.
  - 2. The decision tree system of claim 1 wherein said object oriented module to determine the best manner to split said data is based on tests on single attributes of said data.
  - 3. The decision tree system of claim 1 wherein said object oriented module to determine the best manner to split said data is based on a OC1 algorithm.
  - 4. The decision tree system of claim 1 wherein said object oriented module to determine the best manner to split said data is based on a CART-LC algorithm.

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5. The decision tree system of claim 1 wherein said object oriented module to determine the manner to best split said data is based on an evolutionary algorithm.
6. The decision tree system of claim 1 wherein said criterion is the Gini index.
7. The decision tree system of claim 1 wherein said criterion is the information gain.
8. The decision tree system of claim 1 wherein said criterion is the information ratio.
9. The decision tree system of claim 1 wherein said criterion is the twoing rule.
10. A decision tree system for use in a parallel object oriented data mining system, comprising:
  - a parallel object oriented module to read said data, said data containing data items with features,
  - a parallel object oriented module to sort said data if sorting is necessary,
  - a parallel object oriented module to determine the best manner to split said data into subsets according to some criterion,
  - a parallel object oriented module to split said data,
  - a storage module to store the features for each data item,
  - a parallel object oriented linking module for linking said decision tree system and said storage module.

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11. The decision tree system of claim 10 wherein said parallel object oriented module to determine the best manner to split said data is based on tests on single attributes of said data.

12. The decision tree system of claim 10 wherein said parallel object oriented module to determine the best manner to split said data is based on a OC1 algorithm.

13. The decision tree system of claim 10 wherein said parallel object oriented module to determine the best manner to split said data is based on a CART-LC algorithm.

14. The decision tree system of claim 10 wherein said parallel object oriented module to determine the manner to best split said data is based on an evolutionary algorithm.

15. The decision tree system of claim 10 wherein said criterion is the Gini index.

16. The decision tree system of claim 10 wherein said criterion is the information gain.

17. The decision tree system of claim 10 wherein said criterion is the information ratio.

18. The decision tree system of claim 10 wherein said criterion is the twoing rule.

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19. A decision tree method for use in a method of data mining data files wherein said data files contain objects having relevant features, comprising the steps of:

recognizing patterns among said objects based upon said features,  
creating a decision tree system,  
reading said data using an object oriented module,  
sorting said data using an object oriented module if sorting is necessary,  
determining the best manner to split said data into subsets according to some criterion using an object oriented module, and  
splitting said data using an object oriented module.

20. The decision tree method of claim 19 wherein said parallel object oriented module to determine the best manner to split said data is based on tests on single attributes of said data.

21. The decision tree method of claim 19 wherein said parallel object oriented module to determine the best manner to split said data is based on a OC1 algorithm.

22. The decision tree method of claim 19 wherein said parallel object oriented module to determine the best manner to split said data is based on a CART-LC algorithm.

23. The decision tree method of claim 19 wherein said parallel object oriented module to determine the manner to best split said data is based on an evolutionary algorithm.

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24. The decision tree method of claim 19 wherein said criterion is the Gini index.

25. The decision tree method of claim 19 wherein said criterion is the information gain.

26. The decision tree method of claim 19 wherein said criterion is the information ratio.

27. The decision tree method of claim 19 wherein said criterion is the twoing rule.

28. A decision tree method for use in a method of data mining that includes the steps of reading and displaying data files, said data files containing objects having relevant features, identifying said objects in said data files, and extracting relevant features for each of said objects, comprising the steps of:

recognizing patterns among said objects based upon said features.

creating a decision tree by

reading said data,

sorting said data if sorting is necessary,

determining the best manner to split said data into subsets according to some criterion, and

splitting said data.

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30. The decision tree method of claim 28 wherein said step of determining the best manner to split said data is based on a OC1 algorithm.

32. The decision tree method of claim 28 wherein said step of determining the manner to best split said data is based on an evolutionary algorithm.

34. The decision tree method of claim 28 wherein said criterion is the information gain.

36. The decision tree method of claim 28 wherein said criterion is the twoing rule.